



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,995	10/27/2005	Ronald F. Wilson	8328-3/MIW/SS/43799	1028
30565	7590	12/14/2007		
WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP 111 MONUMENT CIRCLE, SUITE 3700 INDIANAPOLIS, IN 46204-5137			EXAMINER PAJOOHI, TARA S	
			ART UNIT 2886	PAPER NUMBER
			MAIL DATE 12/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,995	Applicant(s) WILSON ET AL.	
	Examiner Tara S. Pajoohi	Art Unit 2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/19/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 71-108 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 71-108 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/19/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Application

1. Applicant cooperation is required in correcting any errors of which applicant may become aware in the specification.

Claims 71-108 are pending in this application.

Information Disclosure Statement

2. Acknowledgement is made that the information disclosure statement filed on 9/19/2005 has been received and considered by the examiner. If the applicant is aware of any prior art or any other co-pending applications not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

Claim Objections

3. Claim 71 is objected to because of the following informalities: There is insufficient antecedent basis for the limitation "the diameter" in line 12. Appropriate correction is required.
4. Claim 83 is objected to because of the following informalities: Please include "to" after the word adapted on line 1.
5. Claim 84 is objected to because of the following informalities: There is insufficient antecedent basis for the limitation "in each image sample" in line 2. Appropriate correction is required.
6. Claim 93 is objected to because of the following informalities: There is insufficient antecedent basis for the limitation "the diameter" in lines 7-8. Appropriate correction is required.
7. Claim 99 is objected to because of the following informalities: There is insufficient antecedent basis for the limitation "in each image sample" in line 2. Appropriate correction is required.
8. Claim 103 is objected to because of the following informalities: There is insufficient antecedent basis for the limitation "the axial direction" in line 1. Appropriate correction is required.

Specification

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

10. Referring to **claims 71-92 and 108**, it has been held that the recitation that an element is "adapted to" or "capable of" perform/performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138.

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. **Claims 71-75, 78-80, 84 and 108** are rejected under 35 U.S.C. 102(b) as being anticipated by **Mullins et al. (U.S. Patent # 6,075,882)**.

13. Considering **claims 71-75, 80 and 108**, Mullins discloses (abstract, col. 2, lines 22-53 and col. 4-11) an apparatus for determining one more physical properties (length of cigarette, filter, etc.) of a rolled smoking article (53) or filter rod, said apparatus comprising:

- a. an imaging device (14, camera producing digital images) defining a field of view, said imaging device being adapted to image a rolled smoking article (53) or filter rod in said field of view and adapted to form a digital image of said smoking article or filter rod (abstract);
- b. a positioning unit (34) which positions a smoking article or filter rod in said field of view such that the axis of the smoking article or filter rod is substantially orthogonal to the optical axis of the imaging device;
- c. an illuminating unit (16) which illuminates said field of view; and

- d. a processor (i.e., computer) which processes said image to determine one or more physical properties of a smoking article or filter rod in said field of view;
 - e. wherein the processor is adapted to determine one or more physical properties of the smoking article or filter rod which relate to the diameter of the smoking article or filter rod, and adapted for processing said digital image electronically for determining said one or more physical properties (col. 5, lines 22-37) and adapted for repeatedly sampling said image (i.e., automatic system repeats sampling the image).
14. Considering **claims 78-79**, Mullins discloses (col. 4, lines 58-67) illuminating unit comprises an infrared backlight adapted for backlighting a smoking article or filter rod positioned in said field of view.
15. Considering **claim 84**, Mullins discloses (col. 2, lines 28-31) the processor is adapted to located two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
- 1. Determining the scope and contents of the prior art.
 - 2. Ascertaining the differences between the prior art and the claims at issue.
 - 3. Resolving the level of ordinary skill in the pertinent art.
 - 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. **Claims 81-83 and 86-87** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mullins et al. (U.S. Patent # 6,075,882)** in view of **Ludlow (U.S. Patent # 6,169,600)**.

20. Considering **claims 81 and 82**, Mullins fails to specifically disclose a rotating mechanism wherein the rotating mechanism comprises two juxtaposed rollers which are positioned side-by-side as to define a groove there between which groove is adapted to receive said smoking article or filter rod a rotating unit which rotates one or both of said rollers thereby to cause said smoking article or filter rod to rotate.

In the same field of endeavor, an inspection system of a rotating rod shaped material (i.e., filter rod), Ludlow discloses (col. 4, lines 28-48) shows in figure 1, a rotating mechanism, two juxtaposed rollers (10 and 20) to rotate a smoking article (12) about its axis in said field of view.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a rotating mechanism to rotate the smoking or filter rod, as taught by Ludlow in the method of Mullins since it is well known that rotating the rolled smoking rod while determining the one or more physical properties will help maintain the consistency of the detecting of the shape of a rolled smoking or filter rod.

21. Considering **claims 83**, Mullins discloses a processor (i.e., computer).

22. Considering **claim 86**, Mullins fails to specifically disclose a processor adapted to determine the diameter of the rolled smoking article at two or more axially spaced locations on said rolled smoking article or filter rod.

In the same field of endeavor, an inspection system of a cigarette, Ludlow discloses (abstract) a processor for measuring the circumference of a cigarette in two different positions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the diameter at two or more axially spaced locations, as taught by Ludlow in the method of Mullins since it would provide for a more accurate assessment of the diameter of the rolled smoking rod since it is possible that there are inconsistencies in the diameter along the length of the rod.

23. Considering **claim 87**, Mullins fails to disclose a processor is adapted to detect one or more circumferential markers on a rolled smoking article or filter rod which are capable of indicating its rotational orientation.

Ludlow shows in figure 3A circumferential markers on a rolled smoking article which are capable of indicating is rotational orientation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide markers on the smoking or filter rod, as taught by Ludlow in the method of Mullins since it would allow for a reference point when determining the diameter of a smoking rod as it is being rotated.

24. Considering **claims 85 and 88-92**, Mullins discloses (col. 7, lines 15 - col. 11) a control unit (i.e., motor control) to control the processor (i.e., computer) and a database (i.e., internal memory).

25. **Claims 76-77, 93-96 and 99-100** rejected under 35 U.S.C. 103(a) as being unpatentable over **Mullins et al. (U.S. Patent # 6,075,882)** in view of **Heitmann et al. (U.S. Patent # 4,645,921)**.

26. Considering **claims 76 and 77**, Mullins discloses one ore more illuminating devices but fails to disclose the illuminating unit comprises one ore more sidelights which are positioned laterally and on opposite sides of said optical axis.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses (abstract) and shows in figure 1, illuminating on opposite sides of a plane that is normal to the moving rod

It would have been obvious to one having ordinary skill in the art at the time the invention was made to illuminate the smoking article on opposite sides as taught by Heitmann in the method of Mullins since it would provide for a more complete and radial illumination of the cigarette.

27. Considering **claim 93-95**, Mullins discloses (abstract, col. 2, lines 22-53 and col. 4-11) a method for determining one more physical properties (length of cigarette, of filter, etc.) of a rolled smoking article (53) or filter rod, said method comprising:

- a. disposing a rolled smoking article (53) or filter within a field of view of an imaging means (14, camera produces digital images) such that the axis of the smoking article is substantially orthogonal to the optical axis of the imaging means (14),
- b. illuminating (16) said field of view,
- c. imaging said field of view to form an image, and
- d. analyzing (i.e., computer) said image and electronically processing said image to determine one or more physical properties of said rolled smoking article or filter rod (col. 5, lines 22-37).

Mullins fails to specifically disclose one or more of the physical properties relate to the diameter of the smoking or filter rod.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses determining the diameter of the smoking or filter rod.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the diameter of the smoking or filter rod, as taught by Heitmann in the method of Mullins since it is well known method to measure the diameter of the rolled smoking rod in order to maintain the consistency of the shape of a rolled smoking or filter rod.

28. Considering **claim 96**, Mullins discloses (abstract) illuminating the field of view with one or more strobed arrays of infrared LED's and using light reflected from the rolled smoking article or filter rod (53) to form an image.

29. Considering **claim 99**, Mullins discloses (col. 2, lines 28-31) the processor to located two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges but fails to specifically disclose determining the diameter of the rolled smoking article or filter rod.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses determining the diameter of the smoking or filter rod.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the diameter of the smoking or filter rod, as taught by Heitmann in the method of Mullins since it is well known method to measure the diameter of the rolled smoking rod in order to maintain the consistency of the shape of a rolled smoking or filter rod.

30. Considering **claim 100**, Mullins discloses (col. 2, lines 28-31) the processor each image sample to locate two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges.

31. Claims 97-98 and 101-107 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mullins et al. (U.S. Patent # 6,075,882)** in view of **Heitmann et al. (U.S. Patent # 4,645,921)** in further view of **Ludlow (U.S. Patent # 6,169,600)**.

32. Considering **claims 97-98**, the modified method of Mullins fails to disclose rotating the rolled smoking article or filter rod about its axis, repeatedly sampling the image and using the diameter of the rolled smoking article to obtain one or more physical properties of the rolled smoking article selected from the mean diameter, ovality, circumference, roundness and shape of the rolled smoking article.

In the same field of endeavor, an inspection system of a rotating rod shaped material (i.e., filter rod), Ludlow discloses (abstract col. 4, lines 28-48) shows in figure 1, a rotating mechanism, two juxtaposed rollers (10 and 20) to rotate a smoking article (12) about its axis in said field of view in order to determine the circumference of the smoking article (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a rotating mechanism to rotate the smoking or filter rod, as taught by Ludlow in the method of

Mullins since it is well known that rotating the rolled smoking rod while determining the one or more physical properties will help maintain the consistency of the detecting of the shape of a rolled smoking or filter rod.

33. Considering **claim 101**, the modified method of Mullins fails to specifically disclose a processor adapted to determine the diameter of the rolled smoking article at two or more axially spaced locations on said rolled smoking article or filter rod.

In the same field of endeavor, an inspection system of a cigarette, Ludlow discloses (abstract) a processor for measuring the circumference of a cigarette in two different positions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the diameter at two or more axially spaced locations, as taught by Ludlow in the method of Mullins since it would provide for a more accurate assessment of the diameter of the rolled smoking rod since it is possible that there are inconsistencies in the diameter along the length of the rod.

34. Considering **claim 102**, the modified method of Mullins fails to disclose a processor is adapted to detect one or more circumferential markers on a rolled smoking article or filter rod which are capable of indicating its rotational orientation.

Ludlow shows in figure 3A circumferential markers on a rolled smoking article which are capable of indicating its rotational orientation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide markers on the smoking or filter rod, as taught by Ludlow in the method of Mullins since it would allow for a reference point when determining the diameter of a smoking rod as it is being rotated.

35. Considering **claims 103-105 and 107**, the modified device of Mullins (Heitmann, col. 5-6) determines the axial direction of a rolled smoking article and a processor (Mullins) which process the images of the rolled smoking article.

The modified device of Mullins fails to specifically disclose the processor determines the wrapping direction of the outer layer of the rolled smoking article, or the position of the shadow cast by a seam of the rolled smoking article, or the presence of a shadow.

However, it is well known that a processor is capable of performing such functions based on the images acquired of the rolled smoking article and therefore would have at least been obvious to one having ordinary skill in the art for various reasons, including maintaining conformity of the rolled smoking article and therefore a more precise rolled smoking article.

36. Considering **claim 106**, Mullins fails to disclose illuminating the rolled smoking article obliquely.

In the same field of endeavor, an inspection system of a cigarette, Heitmann shows in figure 1, obliquely illuminating the rolled smoking article.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide oblique illumination of the rolled smoking article as taught by Heitmann in the method of Mullins since oblique illumination is desirable and advantages because it increases the contrast which are attributable to irregularities in the regions of defects, i.e., such orientation of incident light enhances the sensitivity of the testing apparatus (col. 1, lines 60-67).

Conclusion

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara S. Pajoochi whose telephone number is 571-272-9785. The examiner can normally be reached on Monday - Thursday 7:30 a.m. - 4:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur R. Chowdhury can be reached on 571-272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

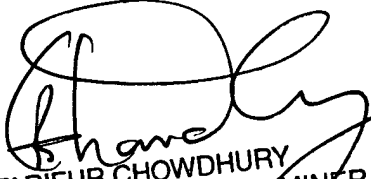
Application/Control Number:
10/549,995
Art Unit: 2886

Page 11

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tara S. Pajoohi
Patent Examiner

TSP


TARIFUR CHOWDHURY
SUPERVISORY PATENT EXAMINER